

EXHIBIT D



Does Talcum Powder Cause Cancer?

Despite the lawsuits, research is inconclusive

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Talc is a mineral often used in cosmetic and personal care products, such as baby powder. There have been concerns that talcum powder causes cancer. Patients have brought thousands of lawsuits against companies that use talc in their products, but scientific studies have not conclusively found a cause-and-effect relationship between talc and cancer.

It's been suggested that asbestos, a mineral that's naturally found in talc, could be behind the connection. Asbestos is a known cause of cancer, especially if it's inhaled.

This article will go over what research has shown about talcum powder and cancer. You will learn whether there is any evidence that talc causes cancer and what some of the theories about talc, asbestos, and cancer are. You'll also find out how to avoid talc if you're worried about cancer.

What Is Talc?

Before diving into the concerns that talcum powder causes cancer, it's important to know what talc is

Talc, technically known as hydrous magnesium silicate, is a mineral that's naturally found in the earth. It's made up of magnesium, silicon, oxygen, and hydrogen.

The rock is mined and then milled. The extracted and ground talc is used in a wide variety of products, but the ones that garner the most attention are personal care items like the following:

- Baby powder (talcum powder)
- Eyeshadow, highlighter, and contour palettes

- Setting powders
- Bronzers
- Blush
- Perfumes

The main purpose of talc in these products is to absorb moisture and oil, reduce skin friction and odor, prevent caking, and create a smooth feel.

In its natural state, talc may contain the mineral asbestos, a substance that is known to cause cancer, especially if someone breathes it in. In 1976, manufacturers of cosmetic and personal care products were asked by the trade association that represents them to voluntarily remove asbestos from the talc they use.

However, it's a standard that's not formally enforced. Concerns about talc's possible link to cancer still exist, particularly among those who work mining talc and in those who have used talc-containing products.

Many Products Contain Talcum Powder

Talc is found in everything from paper to plastics to personal care items. It's used to make roof shingles and as an anti-stick agent in chewing gum. It can also prevent corrosion and increase adhesiveness in paint, give printability to paper, impart silkiness to cosmetics like blush and eye shadow, and help process rubber into tires, among many other uses.

The vast majority of talc used in the United States is found in plastics, ceramics, and paint. Only a fraction is used in cosmetics.

Asbestos in Talcum Powder

Some concerns about talcum powder and cancer are really concerns about asbestos. Although talc and asbestos are different minerals, they're found close to each other in the earth, making it easy for one substance to contaminate the other when it's mined. According to some sources, 1 gram of talc can contain millions of fibers of asbestos.

Manufacturers try to prevent cross-contamination by carefully selecting mining sites and testing samples to make sure they contain talc only.

Asbestos has been deemed a cancer-causing agent for humans by groups such as the U.S. Department of Health and Human Services (HHS), the U.S. Environmental Protection Agency (EPA), and the International Agency for Research on Cancer (IARC), a World Health Association agency.

Exposure to asbestos can lead to a variety of cancers, including:

- Lung
- Larynx (voice box)
- Mesothelioma (a rare type of cancer that affects the lining of the chest and stomach)

Manufacturers of cosmetics and personal care products have—theoretically at least—worked to remove asbestos from their talc products. But the substance can still be found. The Food and Drug Administration (FDA) has conducted testing on cosmetics and found asbestos in certain samples of baby powder, blush, eye shadow, and other products.

Talc and Ovarian Cancer

One type of cancer that is frequently linked to talcum powder is ovarian cancer.

Several studies, including a large-scale one published in the *Journal of the American Medical Association*, have found a small increase in ovarian cancer in people who've used talc products in their genital area. The increase jumps from a lifetime risk of 1.3% to 1.7%. The IARC notes that while the research is limited, the findings are “unusually consistent.”

It's thought that asbestos in talc, or even the talc itself regardless of any asbestos contamination, may cause inflammation in the body that can lead to cancer. But researchers can't say for sure how or even if talc causes cancer. That's because many of the studies are based on what scientists call case controls.

Women with ovarian cancer (the cases) are compared to women without ovarian cancer (the controls) and are asked to recall their use of talc products in the past. Women with ovarian cancer have reported more use of talc products in their genital area, but that doesn't prove that talc caused the cancer.

Talcum Powder Lawsuits

Tens of thousands of lawsuits have been brought against companies that sell talcum-based powders by people who say it has caused their cancers. Some of those lawsuits have been settled for billions of dollars.

Johnson & Johnson, a leading manufacturer of talcum-based powders, says verdicts that have been through the appeals courts have been overturned. Still, citing declining demand due to “changes in consumer habits and fueled by misinformation around the safety of the product and a constant barrage of litigation advertising,” the company stopped selling its talc baby powder in the U.S. and Canada in 2020.

Talc and Mesothelioma

There is also research evidence that has linked talc to mesothelioma. Mesothelioma is a type of cancer that affects the lining of certain parts of the body, particularly the mesothelial cells (called pleura) that line the chest. It’s a fairly uncommon cancer, with only about 3,000 cases diagnosed a year (by contrast, more than 200,000 new cases of lung cancer are diagnosed each year).

The biggest risk factor for developing mesothelioma is exposure to asbestos. It’s thought that when asbestos fibers are inhaled, they can penetrate the pleura and cause irritation, leading to cancer.

Those at the highest risk tend to be people who’ve worked around asbestos, which has been used in insulation, construction, automotive plants, and other industries. But some studies have linked mesothelioma to repeated use of cosmetic talcum powder contaminated with asbestos.

Talc, Asbestos, and Lung Cancer

There are also concerns about talc leading to lung cancer, but the American Cancer Society reports that using talcum powder has not been shown to increase the risk of developing lung cancer.

However, studies looking at whether those who mine and process talc have higher rates of lung cancer have been mixed.

Given the fact that miners/millers are exposed to a lot of different minerals, including asbestos, when they extract and process talc, it's difficult to know what particular agent may be the cancer culprit.

Talc and Uterine Cancer

Research has also looked at whether the risk of reproductive cancers other than ovarian cancer is increased among people who use talcum powder, but the results have been mixed.

One study looking at more than 66,000 women found that those who used talcum powder in the perineal region (the space between the vagina and anus) did not have a higher risk of endometrial cancer (cancer of the uterine lining) unless they were postmenopausal.

Women who used talc and were past menopause had a 21% to 24% increased risk of developing endometrial cancer. Other studies, however, have found no link.

Talc and Other Cancers

There's not enough evidence to show that talc use raises the risk of other cancers, but experts note that research is limited and more studies need to be done to find out for sure.

How to Avoid Talc

Products containing asbestos-free talc are generally considered safe to use, but there's no foolproof way to know if the talc product you're using is without asbestos. If you're at all concerned about talc and its possible connection to cancer, stop using talc products. Read the products list of ingredients and avoid products that contain:

- Talc
- Talcum powder
- Magnesium silicate

If you're a fan of baby powder, you might try powders that contain cornstarch, another moisture/oil-absorbing ingredient, instead of talc.

Is Baby Powder Safe for Babies?

The American Academy of Pediatrics advises against using talcum powder on babies. Powder particles can be inhaled by babies when the product is applied, irritating their lungs and causing breathing problems.

A Word From Verywell

Research on the link between talcum powder and cancer has been inconsistent. Some researchers asked study subjects to rely on memory recall, which can be prone to errors. Other studies may have shown a link but not a definite cause and effect relationship between talc and cancer.

Other studies were funded by companies that make talc products or by law firms that represent those looking for compensation, making their impartiality a question. Even research that's weak or inconclusive can be concerning, especially for people who use talc regularly or are exposed to asbestos.

To identify products containing talc, read labels. Stop using any product if you're worried about its possible effects on your health.

FREQUENTLY ASKED QUESTIONS

How do you get cancer from talcum powder?

There is no clear evidence that talcum powder directly causes cancer. Studies have suggested that people using talc products, especially those that might have asbestos in them, might be at an increased risk for some forms of cancer. Asbestos is known to be a cancer-causing agent.

What type of cancer is caused by talcum powder?

It's not clear that talcum powder directly causes cancer; however, there have been claims that talc might increase the risk of reproductive cancers (ovarian

and uterine), and mesothelioma. Research on this connection has been inconclusive, however.

Is talcum powder harmful?

Talc itself is not necessarily harmful to your health; however, if the talc is contaminated with asbestos, that mineral can harm your lungs. Asbestos exposure has been linked to cancer of the voice box, lung cancer, and mesothelioma.

What kind of cancer does Johnson's baby powder cause?

Baby powders made by Johnson & Johnson and other companies have been implicated in lawsuits with claims that the product caused cancer. Most of the suits were filed by people who had ovarian cancer and believed talcum powder had caused it. In 2020, Johnson & Johnson stopped selling talcum powder in the United States and Canada.

21 Sources

Verywell Health uses only high-quality sources, including peer-reviewed studies, to support the facts within our articles. Read our editorial process to learn more about how we fact-check and keep our content accurate, reliable, and trustworthy.

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